

ABSTRACT OF THE DISCLOSURE

The invention relates to a process for the preparation of a block copolymer, the process being carried out in the presence of a multifunctional initiator and comprising at least one enzymatically catalyzed homo- or copolymerization reaction and at least one non-enzymatically catalyzed controlled homo- or copolymerization reaction, wherein the non-enzymatically catalyzed controlled homo- or copolymerization reaction is chosen from the group comprising a free radical polymerization reaction, an ionic polymerization reaction, a polycondensation reaction, and a ring opening polymerization (ROP) reaction. The invention also relates to a chiral block copolymer wherein at least one block comprises at least one substituted ϵ -caprolactone derivative.